

UNITED STATES SIGNAL SERVICE MONTHLY WEATHER REVIEW.

VOL. XVIII.

WASHINGTON CITY, JANUARY, 1890.

No. 1.

O INTRODUCTION.

This REVIEW is based on reports for January, 1890, from 1,934 regular and voluntary observers. These reports are classified as follows: 166 reports from Signal Service stations; 120 monthly reports from United States Army post surgeons; 1,270 monthly reports from state weather service and voluntary observers; 25 reports from Canadian stations; 353 marine reports through the co-operation of the Hydrographic Office, Navy Department; marine reports through the "New York Herald Weather Service;" monthly weather reports from the local weather services of Alabama, Arkansas, Colorado, Illinois, Indiana, the Iowa Weather Crop Bulletin Service, Kansas, Kentucky, Louisiana,

Michigan, Minnesota, Mississippi, Missouri, Meteorological Report of the Missouri State Board of Agriculture, Nebraska, Nevada, New England, New Jersey, New York, North Carolina, North and South Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, and Texas, and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used. Snow blockades or floods prevented the forwarding of reports of the Central Pacific Railway Company, and the rainfall observations of the United States Geological Survey in the southern plateau region, in time to be used in this issue of the REVIEW.

O CHARACTERISTICS OF THE WEATHER FOR JANUARY, 1890.

The most disastrous storms of the month occurred from the middle Mississippi valley to the Great Lakes and thence eastward to New England during the 12th and 13th, within the area of a low pressure storm which first appeared as a feeble disturbance in the middle Rio Grande valley the night of the 11th, and thence moved northeastward with greatly increased energy, passing over the middle Mississippi valley to Lake Michigan during the 12th, over Michigan and Lake Huron during the night of the 12-13th, and east-northeast over Canada during the 13th. Destructive local storms occurred at distances varying from one hundred and fifty to three hundred miles to the southward of the centre of the main cyclone on the afternoon of the 12th. At Saint Louis, Mo., and Clinton, Ky., lives were lost, many persons were injured, and much property was destroyed by tornadoes. Great destruction was also caused at other places in western Kentucky, notably at Wickliffe and Moscow, and at other points in the Ohio and middle Mississippi valleys. On the 12th heavy snow storms, with high wind and falling temperature, occurred in Minnesota, the Dakotas, Kansas, Nebraska, and Iowa. In Minnesota, the Dakotas, Nebraska, and Kansas the snow drifted heavily and caused a general blockade to railroads. On the 12th and 13th the storm along the lower lakes and in parts of New York and New England was one of the severest experienced in many years, and was attended by fatalities and great destruction of property. In January, 1889, a severe storm, which followed a similar track to that pursued by the storm above referred to, advanced from southern Texas northeastward over the middle Mississippi valley, lower Lake Michigan, Michigan, and Lake Huron, and thence eastward north of the Saint Lawrence River from the 7th to 10th. This storm was attended by numerous local storms of unusual violence from the middle Mississippi valley eastward, and very destructive gales in the Ohio Valley, the Lake region, the middle Atlantic states, and New England. Over the north Atlantic ocean the storms of January, 1890, were exceptionally severe, more especially over mid-ocean, where heavy gales prevailed throughout the month.

The highest temperature reported for the month was 97°, at Fort Ringgold, Tex., and the lowest temperature noted was -42°, at Martindale, Mont. The month was warmer than the average January east of the Rocky Mountains, except in Minnesota and the upper Missouri valley, and was colder than usual on the Pacific coast, over the middle and northern plateau regions, and near the Gulf of Saint Lawrence. The greatest departures above the average temperature occurred in the middle Atlantic states south of New York, at Lake Erie stations, and in the Ohio and lower Mississippi valleys, where they exceeded 10°; the highest mean temperature ever reported for January was noted along the Atlantic and east Gulf coasts, and in the southern plateau region; and at a number of the older established Signal Service stations in New England, the middle and south Atlantic states, the Florida Peninsula, the Gulf States, the Ohio Valley and Tennessee, the Lake region, the upper Mississippi and lower Missouri valleys, and the southern plateau region, the absolute maximum temperature was the highest ever reported for January. The greatest departures below the average temperature were noted in northern Montana and the British Possessions to the northward, where they were more than 10°, and at stations in northern Montana, northern Nevada, and California it was the coldest January on record. Unusually heavy frost was reported at Keeler, Cal., on the 6th, and frost injured vegetation in southern Louisiana on the 16th and 17th.

The heaviest precipitation reported was 33.40 at Upper Mattole, Humboldt Co., Cal., and the precipitation amounted to 20.00, or more, in eastern California between the thirty-eighth and fortieth parallels, and in a small area on the west-central coast of California. In southwestern Washington, western Oregon, northwestern California, east-central Arkansas, south-central Indiana, south-central Illinois, southeastern Missouri, and east-central Texas the precipitation exceeded ten inches. In areas in southwestern Arizona, south-central Colorado, north-central New Mexico, northeastern South Dakota, and near the south coast of Great Salt Lake, Utah, no precipitation was reported. The precipitation was below the average for the month in the Atlantic coast and